

### REMARKS

Entry of this amendment in this application, and favorable reconsideration of this application based on that amendment and these remarks, are respectfully requested.

Claims 1 through 20 remain in this case. Amendment to claims 1, 2, 9, 10, and 12 through 15 is presented in this paper.

The allowance of claims 7 and 8 is noted.

Claims 1 through 6, 11 through 13, 15 through 17, and 20 were finally rejected under §102(e) as anticipated by the Potts et al. reference<sup>1</sup>, which the Examiner asserted teaches all of the elements of those claims.<sup>2</sup>

Claims 9, 10, 18, and 19 were finally rejected under §103 as unpatentable over the Potts et al. reference in view of the Maurer et al. reference<sup>3</sup>. The Examiner found that these claims differ from the Potts et al. reference by requiring that the specified criterion is whether an eye is open or a mouth is closed, but that the Maurer et al. reference teaches an apparatus for sensing facial movements such as these criteria. The Examiner concluded that it would have been obvious to combine these teachings to implement a digital camera with convenient and efficient facial sensing, and rejected the claims accordingly.

Claim 14 was finally rejected as unpatentable over the Potts et al. reference in view of the Sakamoto et al. reference<sup>4</sup>. The Examiner found that the claim differs from the Potts et al. reference by requiring the step of determining whether the detected audible sound is laughter, but that the Sakamoto et al. reference teaches the evaluation of sound to detect a predetermined word or laughter. The Examiner concluded that it would have been obvious to modify the camera of Potts et al. to determine whether the detected audible sound is laughter to precisely determine lip motion, and rejected claim 14 accordingly.

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<sup>1</sup> U.S. Patent No. 6,593,956 B1, issued July 15, 2003 to Potts et al.

<sup>2</sup> Office Action of October 3, 2003, at pages 2 through 4.

<sup>3</sup> U.S. Patent No. 6,272,231 B1, issued August 7, 2001 to Maurer et al.

<sup>4</sup> U.S. Patent No. 5,561,796, issued October 1, 1996 to Sakamoto et al.

Amendment to claim 1 is presented to clarify its patentability over the Potts et al. reference and the other prior art of record in this case. Proposed amended claim 1 now requires that the information that is detected and evaluated, and responsive to the evaluation of which the recording step is performed, is visual information. The specification clearly supports this amendment to claim 1,<sup>5</sup> and that therefore no new matter is presented by this proposed amendment.

The method of proposed amended claim 1 provides important advantages in the operation of a digital camera.<sup>6</sup> More specifically, this claimed method greatly improves the quality of images taken by a digital camera, and improves the efficiency with which the memory of the camera is utilized, by recording images after analysis of facial characteristics and other criteria. Unwanted and unusable images are simply not taken by the camera if the desired criteria are not met by the current detected, but not yet recorded, image.

Amendment is also presented to claims 2, 9, 10, and 12 through 14, all of which depend directly or indirectly upon claim 1, to render these claims consistent with the proposed amendment to claim 1. No new matter is presented by the proposed amendment to these dependent claims.

Applicant respectfully submits that proposed amended claim 1 is novel over the Potts et al. reference. The Examiner asserted that the Potts et al. reference teaches the detecting of information, from a scene, where the information is in the form of sound waves from a speaker, meeting the detecting step of claim 1.<sup>7</sup> Given this interpretation of the Potts et al. reference, Applicant respectfully submit that the proposed amendment to the claim, now requiring that it is visual information from the scene that is detected and evaluated, renders it novel over the Potts et al. reference.

Applicant understands from the Office Action that the Examiner considers the Potts et al. reference to also disclose the evaluating of detected information relative to a human facial

<sup>5</sup> See specification of S.N. 09/465,242 at page 14, line 7, through page 19, line 2.

<sup>6</sup> Specification, *supra*, at page 20, line 31 through page 21, line 15.

<sup>7</sup> Office Action, *supra*, page 2, ¶4.

characteristic.<sup>8</sup> However, Applicant respectfully submits that the Potts et al. reference does not disclose the step of recording an image of a scene responsive to the evaluating of visual information determining that the scene includes information representative of a human facial characteristic and that satisfies a specified criteria. The reference does not disclose this recording step of the claim, because its disclosed system records images regardless of the content of the image.

The teachings of the Potts et al. reference is directed to the aiming and zooming of a video camera at a human in the scene that is speaking at that time.<sup>9</sup> As described in the Potts et al. reference, the incoming video frames are stored in a memory storage unit, and these stored video frames are analyzed to correlate a detected video face with the detected audio speaker, and to correct or prevent camera framing errors.<sup>10</sup> But this disclosed operation of the Potts et al. reference makes no decision regarding whether to record an image based on the evaluating of any visual information. The video camera of the Potts et al. reference records, and continues to record, video images regardless of the evaluation of the visual information; indeed, the recorded images themselves are used in the analysis. Accordingly, the Potts et al. reference fails to disclose the responsive recording step required by proposed amended claim 1.

Applicant also respectfully submits that there is no suggestion from the Potts et al. reference or the other prior art to modify the teachings of the Potts et al. reference in such a manner as to reach the claim. First, the nature of the system disclosed in the Potts et al. reference lends no such suggestion, considering that its teachings are directed to an entirely different problem, namely the automatic aiming and zooming of a video camera during operation. In contrast, the claimed method is directed to an automated way in which the camera can decide whether to record an image at all, or if instead the humans in the scene are not ready for the photographic portrait. As discussed above, there is no mention of any such operation or even the desire or need for such operation in the Potts et al. reference.

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<sup>8</sup> Office Action, *supra*, page 3, ¶4.

<sup>9</sup> Potts et al., *supra*, column 7, lines 35 through 54.

<sup>10</sup> *Id.*

And the other prior art applied against the claims add no teachings in this regard to those of the Potts et al. reference. The Maurer et al. reference is directed to the acquisition of facial movements and features from a human subject, for use in later generating an avatar (virtual person). The Sakamoto et al. reference is directed to the searching of already-recorded video for particular features. Neither of these references anywhere mentions the deciding of whether to record an image of a scene responsive to the evaluating of detected visual information to determine whether that information includes information that is representative of a human facial characteristic and that satisfies a specified criteria.

For these reasons, Applicant respectfully submits not only that the combined teachings of the references fall short of the requirements of proposed amended claim 1, but that there is no suggestion from the prior art to modify the teachings of these references in such a manner as to reach the claims. Applicant therefore respectfully submits that proposed amended claim 1 and its dependent claims are patentably distinct over the applied references.

Furthermore, the advantages of this invention, and indeed its overall purpose, stem directly from the differences between proposed amended claim 1 and the combined teachings of the prior art. Applicant therefore submits that these advantages further supports the patentability of proposed amended claim 1 and its dependent claims.

For these reasons, Applicant respectfully submits that entry of this amendment to claim 1, and to those of its dependent claims for which amendment is also proposed, will place claims 1 through 6 and 9 through 14 in condition for allowance.

Amendment is also presented to claim 15, to clarify its patentability over the Potts et al. reference and the other prior art of record in this case. Proposed amended claim 15 is now directed to a camera comprising, among other elements, a processor that controls the image detector to detect visual information, and that evaluates the detected visual information relative to a human facial characteristic, and that records an image of the scene, in memory, responsive to its evaluation of the visual information being representative of a human facial characteristic

and satisfying a specified criteria. The specification clearly supports this amendment to claim 12,<sup>11</sup> and that therefore no new matter is presented by this proposed amendment.

The camera of proposed amended claim 15 provides the important advantages discussed above relative to proposed amended claim 1.

For similar reasons as discussed above relative to proposed amended claim 1, Applicant respectfully submits that proposed amended claim 15 is novel over the Potts et al. reference. The proposed amendment to claim 15 clarifies that it is visual information from the scene that is detected and evaluated, and that the processor records the image responsive to its evaluation of whether this visual information includes information representative of a facial characteristic and meets a specified criteria.

In contrast, as asserted by the Examiner, the information detected and evaluated by Potts et al. reference is in the form of sound waves from a speaker.<sup>12</sup> To the extent that the Potts et al. reference discloses the evaluating of detected information relative to a human facial characteristic,<sup>13</sup> the reference fails to disclose the recording of an image of a scene responsive to that evaluating. Rather, the system disclosed by the Potts et al. reference records images regardless of their content of the image, and only uses its analysis of video frames (including those already recorded) to correct or prevent camera framing errors.<sup>14</sup> No decision is made, according to the Potts et al. teachings, regarding whether to record an image based on the evaluating of any visual information, because the disclosed video camera records, and continues to record, video images regardless of the evaluation of the visual information. Accordingly, the Potts et al. reference fails to disclose the processor required by proposed amended claim 15.

As discussed above relative to proposed amended claim 1, Applicant also respectfully submits that the combined teachings of the references fall short of proposed amended claim 15,

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<sup>11</sup> Specification, *supra*, at page 14, line 7, through page 19, line 2.

<sup>12</sup> Office Action, *supra*, page 2, ¶4.

<sup>13</sup> Office Action, *supra*, page 3, ¶4.

<sup>14</sup> *Id.*

and that there is no suggestion from the Potts et al. reference or the other prior art to modify those teachings to reach the claim.

The Potts et al. reference, as noted above, fails to disclose the processor required by proposed amended claim 15. And the other references applied against the claims add no teachings in this regard. Accordingly, Applicant respectfully submits that the combined teachings of the applied references fall short of proposed amended claim 15.

Further, there is no suggestion to modify these combined prior art teachings in such a manner as to reach proposed amended claim 15. The Potts et al. system is directed to aiming and zooming its video camera during its recording operation, and therefore lends no suggestion to modify its teachings to reach claim 15. The Maurer et al. reference is directed to the acquisition of facial movements and features from a human subject, for use in later generating an avatar (virtual person). The Sakamoto et al. reference is directed to the searching of already-recorded video for particular features. Therefore, none of these references anywhere suggest deciding whether to record an image responsive to the contents of that scene, much less suggest including a processor for evaluating detected visual information to determine whether that information includes information that is representative of a human facial characteristic and that satisfies a specified criteria and then recording the image, as claimed.

For these reasons, Applicant respectfully submits that proposed amended claim 15 and its dependent claims are patentably distinct over the applied references.

The advantages of this invention also support the patentability of these apparatus claims, because those advantages are directly due to the differences between the claim and the combined teachings of the prior art. Applicant therefore submits that these advantages further supports the patentability of proposed amended claim 15 and its dependent claims.

For these reasons, Applicant respectfully submits that entry of this amendment to claim 15 will place claims 15 through 20 in condition for allowance.

For the above reasons, Applicant respectfully submits that, upon entry of this proposed amendment, all claims in this case will be in condition for allowance. Entry of this amendment in, and favorable reconsideration of, this application is therefore respectfully requested.

Respectfully submitted,



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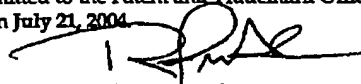
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